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AMENDMENTS TO THE SPECIFICATION:

Please add the following new paragraph before the paragraph which begins ~~on line 3~~ after line 4 of page 2:

As described therein an orthogonal training sequence can be developed for a channel that is described as a finite impulse response (FIR) filter having a length M_{new} from the already existing orthogonal training sequences for at least two channels that have respective lengths M_{old1} and M_{old2} each that is less than M_{new} such that the product of M_{old1} and M_{old2} is equal to M_{new} when M_{old1} and M_{old2} have no common prime number factor. More specifically, a set of initial existing orthogonal training sequences is found, e.g., using those that were known in the prior art or by performing a computer search over known symbol constellations given a channel of length M. Thereafter, an orthogonal training sequence of length M_{new} is developed, where the product of M_{old1} and M_{old2} is equal to M_{new} by repeating the training sequence old1 M_{old2} number of times to form a first concatenated sequence and repeating the training sequence old2 M_{old1} number of times to form a second concatenated sequence, so that both the first concatenated sequence and the second concatenated sequence have the same length. Each term of the first concatenated sequence is multiplied by the correspondingly located term in the second concatenated sequence which is placed in the same location in a new sequence made up of the resulting M_{new} products. This new sequence is an orthogonal sequence of length M_{new}. If there is more than one existing orthogonal sequence for a particular length channel, e.g., there may be different orthogonal sequences for different modulation schemes for the same length channel, the implementer may choose which ever orthogonal sequence gives the results desired. Often, for practical applications, the result that yields the modulation scheme that is most suitable for use with the actual channel, which may yield the highest speeds, or the result that yields the smallest alphabet, which would reduce the hardware required for implementation, is desirable.